

# UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

## SUPERFUND PROPOSED PLAN FACT SHEET

### OLIN CORP. (McINTOSH PLANT) SITE (Operable Unit-1)

*McIntosh, Washington County, Alabama*



20283

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February, 1994

#### INTRODUCTION

The U.S. Environmental Protection Agency (EPA) is issuing this Proposed Plan Fact Sheet for Operable Unit 1 (OU-1) cleanup for the Olin Corp. (McIntosh Plant) Site to provide an opportunity for public comment on EPA's preferred cleanup method. The plan for OU-1 addresses contamination related to the active facility and the upland area of plant property. EPA, in consultation with the Alabama Department of Environmental Management (ADEM), will select a final remedy only after public comments have been considered. Terms in ***bold italics*** print are defined in a glossary on page 16 of the fact sheet.

EPA issues this Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or *Superfund*). The Plan summarizes information that can be found in greater detail in the Remedial Investigation/Feasibility Study (RI/FS) and other documents contained in the *Administrative Record*. The Record and an *Information Repository* for the Olin Site can be found at the following location:

***McIntosh Town Hall  
Commerce St. (off Hwy. 43 North)  
McIntosh, Alabama***

#### TECHNICAL ASSISTANCE GRANTS

EPA awarded a Technical Assistance Grant (TAG) to the McIntosh Environmental Concerns Committee for this group to hire an advisor to help the community evaluate and comment on EPA's actions at the Olin Site. Only one grant of up to \$50,000 may be awarded per site. Contact the community relations coordinator below or the McIntosh group for further information.



Send written comments prior to the close of the comment period or address questions to:

***Kenneth A. Lucas, Project Manager  
OR***

***Betty Winter, Community Relations  
South Superfund Remedial Branch  
U.S. Environmental Protection Agency  
345 Courtland Street, NE  
Atlanta, Georgia 30365  
1-800-435-9234.***

#### MARK YOUR CALENDAR

##### Public Comment Period

**Dates:** March 1, 1994 through March 30, 1994

**Purpose:** To comment on Proposed Plan for the Olin site.

##### Public Meeting

**Date:** Tuesday, March 15, 1994

**Time:** 6:00 p.m.

**Place:** McIntosh Town Hall, McIntosh, Alabama

**Purpose:** To discuss the Proposed Plan for the Olin Site.

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## SCOPE AND ROLE OF PROPOSED ACTION

EPA has organized the work at this Site into the following two phases or operable units (OUs):

- **OU-1:** OU-1 consists of the active production facility **Solid Waste Management Units (SWMUs)** and the upland area of Olin property. The areas in OU-1 beyond the active production facilities include predominantly undeveloped areas to the north and northwest and the brine well field to the west. The most distinctive topographic feature is a steep bluff located approximately 4,000 feet east of the main plant area. This bluff defines the edge of the low-lying OU2 floodplain area.
- **OU-2:** OU-2 consists of a basin, the floodplain within the Olin property line, and the wastewater ditch leading to the basin. The basin is a natural oxbow lake lying within the floodplain of the adjacent Tombigbee River. During the seasonal high water levels (approximately 4 to 6 months per year), the basin is inundated by, and thus becomes contiguous with, the adjacent river. A remedy for OU-2 will be developed in a subsequent Proposed Plan.

## REMEDIAL INVESTIGATION SUMMARY



### GROUNDWATER CONTAMINATION

Mercury and organics (predominantly chloroform, chlorobenzene and the dichlorobenzene isomers) were detected in samples from the on-site *groundwater monitoring wells* in the *Alluvial Aquifer*. The horizontal extent of constituents, as defined by the RI and RCRA sampling data, is generally within the boundaries of the facility and there is not a continuous plume that extends to any off-site drinking water wells. One apparent exception to this is chloroform detected at about 100 µg/l (**micrograms per liter or parts per billion**) in a **southeast** perimeter well. Both mercury and chloroform were reported at concentrations higher than the *Primary Drinking Water Standard Maximum Contaminant Levels (MCLs)*. Chlorobenzene, 1,2-dichlorobenzene, and 1,4-dichlorobenzene were reported in the groundwater samples from an onsite process water well that is screened in the Miocene Aquifer (the deeper aquifer).

A total of 122 residential wells (active, inactive and closed) were identified within a 3-mile radius around the Olin facility; 34 of these wells were drinking water wells that could be sampled. Mercury was detected in only one of these 34 drinking water wells, and volatile constituents were found in 11 wells. All reported concentrations were below respective MCLs.

### SOILS AND SOURCE AREAS

The review of the RCRA quarterly groundwater monitoring data revealed potential continuing sources of contamination. EPA evaluated potential source areas by examining trends in quarterly monitoring data from 1987 until 1991 and conducting subsurface soil sampling at SWMUs. EPA required collection of subsurface soil samples from the following SWMUs and other known areas of contamination:

- Old plant (CPC) landfill
- Former CPC plant area
- Sanitary landfills
- Lime ponds
- Strong brine pond
- Former mercury-cell plant
- Old plant (CPC) landfill drainage ditch
- Well sand residue area.

### Old Plant (CPC) Landfill

The site of the old plant (CPC) landfill was used from 1954 until 1972 to neutralize acidic wastewater from CPC plant operations. The landfill area is approximately 300 x 400 feet and is estimated to have had an 8,000-cubic-yard capacity. Overall, the data indicate that migration of organic constituents into the Alluvial Aquifer from the soil is most likely in the western portion of the landfill where acid neutralization took place prior to 1972. Based on analytical results, EPA identified this landfill as a potential source of organic substances moving to the groundwater.

### Area West of Former CPC Plant

The former CPC (Crop Protection Chemicals) plant was constructed in 1952, initially manufacturing monochlorobenzene, adding PCNB in 1956, expanding to TCAN and Terrazole® in 1973, and shutting down in 1982. In 1984, Olin dismantled and covered with an approximately 2-foot-thick

residents. However, future use of this site as a residential area is unlikely. Additionally, no significant ecological or habitats exposures are expected on the plant facility, therefore, only likely human health exposures are summarized here. Ecological risks will be presented for OU-2 (the basin) in a subsequent Proposed Plan.

Exposure pathways for current off-site residential receptors include inhalation of particulates; dermal contact with surface water; dermal contact and incidental ingestion of submerged sediments; inhalation of volatiles from surface water; ingestion of fish; ingestion and dermal contact with off-site domestic well water; inhalation of volatile contaminants from off-site domestic well water; and dermal contact and incidental ingestion of surface soils. Exposure pathways for the onsite industrial workers include inhalation of groundwater volatiles; dermal contact with groundwater; inhalation of

particulates; and dermal contact and incidental ingestion of surface soils. EPA has determined that the contaminants of concern would pose unacceptable risks if the on-site groundwater were used as a source of potable water or if the site were used for on-site residents.

Future residential use is unlikely, therefore, the proposed cleanup goals are directed at protecting the groundwater for its maximum beneficial use.

Cleanup goals were developed (see tables below) for the groundwater and for the area west of the former CPC plant. These cleanup goals for groundwater are based on MCLs or health-based calculations. Cleanup goals for the area west of the former CPC plant are based on protection of groundwater for domestic use from contaminants which may migrate from the soils to the groundwater.

#### CLEANUP PERFORMANCE STANDARDS FOR GROUNDWATER

Constituent	Cleanup Goal(µg/l)
Alpha-BHC	0.013
Benzene	5
Chlorobenzene	100
1,2,4-Trichlorobenzene	70
1,2-Dichlorobenzene	600
1,3-Dichlorobenzene	75
1,4-Dichlorobenzene	75
Mercury	2
Pentachlorobenzene	29
Pentachloronitrobenzene	0.00

#### CLEANUP PERFORMANCE STANDARDS AREA WEST OF FORMER CPC PLANT<sup>1</sup>

Constituent	Soil Cleanup Goal (mg/kg)
Benzene	5
Chlorobenzene	79
1,2-Dichlorobenzene	1,645
1,3-Dichlorobenzene	140
1,4-Dichlorobenzene	140
1,2,4-Trichlorobenzene	1,000
Mercury	55

<sup>1</sup> Cleanup goals will be developed for Alpha-BHC, Pentachlorobenzene, Pentachloronitrobenzene if they are encountered during the cleanup.

The criteria shown in the box below are those EPA uses to compare the alternatives to determine the most appropriate cleanup method.

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### CRITERIA FOR EVALUATING REMEDIAL ALTERNATIVES

*In selecting a preferred cleanup alternative, EPA uses the following criteria to evaluate each of the alternatives developed in the Feasibility Study (FS). The first two criteria are essential and must be met before an alternative is considered further. The next five are used to further evaluate all options that meet the first two criteria. The final two criteria are used to further evaluate EPA's proposed plan after the public comment period has ended and comments from the community and the State have been received. All nine criteria are explained in more detail here.*

.Protection of Human Health and the Environment -  
Assesses degree to which alternative eliminates, reduces, or controls health and environmental threats through treatment, engineering methods, or institutional controls.

.Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) - Assesses compliance with Federal/State requirements.

.Cost - Weighing of benefits of a remedy against the cost of implementation.

.Implementability - Refers to the technical feasibility and administrative ease of a remedy.

.Short-Term Effectiveness - Length of time for remedy to achieve protection and potential impact of construction and implementation of the remedy.

.Long-Term Effectiveness and Performance - Degree to which a remedy can maintain protection of health and environment once cleanup goals have been met.

.Reduction of Toxicity, Mobility, or Volume Through Treatment - Refers to expected performance of the treatment technologies to lessen harmful nature, movement, or amount of contaminants.

.State Acceptance - Consideration of State's opinion of the preferred alternatives.

.Community Acceptance - Consideration of public comments on the Proposed Plan.

### COMPARISON OF ALTERNATIVES

A comparative analysis of the alternatives is based on the seven of the nine evaluation criteria (excluding state and community acceptance). The details of the comparative analysis are presented for OU-1 groundwater in Section the FS. Three separate comparative analyses were conducted for OU-1 source areas/soils, one for the old plant (CPC) landfill, one for the area west of the CPC plant, and one for the sanitary landfills, lime ponds, and well sand residue area combined. The comparative analysis for the strong brine pond is not contained in the body of the FS but in the February 21, 1994 addendum. This analysis identifies whether the alternatives satisfy the two threshold criteria, protection of human health and the environment, and compliance with ARARs. A semi-quantitative rating system is used to show the relative performance of each alternative against the other five criteria. The rating system consists of numbers 1 through 5, with 5 showing the greatest relative performance against the criteria and 1 showing the least.

**SOILS  
OLD PLANT (CPC) LANDFILL  
SUMMARY OF COMPARATIVE ANALYSIS**

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Criteria	No Action with Continuation of Existing CAP	OU-1 Soil Alternative				
	A	C	D	E	F	G1
Overall Protection of Human Health and The Environment	Y	Y	Y	Y	Y	Y
Compliance With ARARs	Y	Y	Y	Y	Y	Y
Long-Term Effectiveness and Permanence	1	2	4	5	5	5
Reduction in Mobility, Toxicity or Volume	1	2	4	4	4	5
Short-Term Effectiveness	5	5	3	1	2	1
Implementability	5	5	2	2	3	1
Cost	5	4	3	2	1	1

**NOTES:**

Y = Would comply.

A rating of 5 shows the greatest relative performance against the criteria and a rating of 1 shows the least.

- Alternative C - Containment (Extend Existing Cap)
- Alternative D - In Situ Stabilization-Solidification/Containment
- Alternative E - Excavation/Stabilization-Solidification/Containment
- Alternative F - Excavation/Off-Site RCRA Disposal
- Alternative G - Excavation/On-Site Thermal Treatment/Disposal

**SOILS  
SANITARY LANDFILLS, LIME PONDS, STRONG BRINE POND  
MERCURY CELL PLANT AND WELL SAND RESIDUE AREA  
SUMMARY OF COMPARATIVE ANALYSIS**

4 10 0007

Criteria	No Action with Continuation of Existing CAP	OU-1 Soil Alternative			
	A	B1	B2	C1	C2
Overall Protection of Human Health and The Environment	Y	Y	Y	Y	Y
Compliance With ARARs	Y	Y	Y	Y	Y
Long-Term Effectiveness and Permanence	3	4	4	5	5
Reduction in Mobility, Toxicity or Volume	1	2	2	3	4
Short-Term Effectiveness	5	5	4	4	3
Implementability	5	5	4	3	3
Cost	5	4	3	2	1

**NOTES:**

Y = Would comply.

A rating of 5 shows the greatest relative performance against the criteria and a rating of 1 shows the least.

- Alternative B1 - Institutional Actions (Cap Inspection/Maintenance, Groundwater Monitoring Near Sanitary Landfills)
- Alternative B2 - Expanded Institutional Actions (Cap Inspection/Maintenance, Expanded Groundwater and Surface Water Monitoring)
- Alternative C1 - Containment (Sanitary Landfills and Lime Ponds)/Institutional Actions
- Alternative C2 - Consolidation/Containment (Sanitary Landfills, Lime Ponds and Well Sand Residue Area)/Institutional Actions

**State Acceptance**

EPA has consulted the ADEM and will seek its concurrence prior to selecting a final remedy.

**Community Acceptance**

The purpose of this plan is to seek input from the public on the appropriateness of the preferred alternative. EPA will select a final remedy only after careful consideration of all comments received. EPA will tell the public how it responded to comments in the Responsiveness Summary included in the Record of Decision (ROD), the document explaining EPA's remedy selection. That document will be made available to the public.



**MAILING LIST ADDITIONS/CORRECTIONS**

If you would like your name and address placed on the mailing list for the OLIN Site, please complete this form and return to Betty Winter, EPA, 345 Courtland Street, NE, Atlanta, GA 30365.

**NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

\_\_\_\_\_

**TELEPHONE:** \_\_\_\_\_

**AFFILIATION (If any):** \_\_\_\_\_





OLIN SUPERFUND SITE  
PUBLIC COMMENT SHEET

**USE THIS SPACE TO WRITE YOUR COMMENTS**

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

Phone # \_\_\_\_\_

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